ABSTRACT OF THE DISCLOSURE

A pulse controlled phase modulator device converts an unknown phase pulsed input signal to a continuous wave phase modulated output signal. The pulsed input signal activates a switch, such as a saturable absorber operating near saturation, to pulse modulate a dependent signal that has a known phase value. A combiner combines the dependent signal with an independent signal to produce the constant magnitude continuous wave phase modulated output signal. The output signal is a binary phase shift keying signal with the same frequency as the continuous wave input signal. An amplifier or weighted splitter is used to make the dependent signal larger in magnitude than the independent signal and a phase inverter is used to make the dependent and independent signals opposite in phase.

The pulse controlled phase modulator consists of a splitter, an independent stage, a dependent stage, and a combiner. A threshold device is also used on the pulsed dependent signal to inhibit output magnitude variations.